AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A compound of the formula (1):

wherein

P is hydrogen or an amino-group protecting moiety;

R is hydrogen or alkyl;

A is 0, 1, or 2;

R¹, R², and R³ are each independently hydrogen, alkyl, cycloalkyl, aryl, or -CH₂-R⁵;

R⁵, in each instance, is aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, heteroaryl, or – W-R⁶, where W is a chalcogen and R⁶ is alkyl;

wherein the ring portion of any said aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, or heteroaryl in R¹, R², R³, or R⁵ can be optionally substituted; and

 Z^1 and Z^2 together form a moiety derived from a sugar, wherein the atom attached to boron in each case is an oxygen atom.

- 2. (Original) The compound of claim 1, wherein the sugar is a monosaccharide or disaccharide.
 - 3. (Original) The compound of claim 1, wherein the sugar is a reduced sugar.
- 4. (Previously Presented) The compound of claim 3, wherein the reduced sugar is sorbitol.
 - 5. (Original) The compound of claim 1, wherein A is 0.
 - 6.-7. (Canceled)
- 8. (Original) The compound of claim 1, wherein P is R^7 -C(O)-, R^7 -S(O)₂-, R^7 -NH-C(O)-, or R^7 -O-C(O)-;

where R^7 is alkyl, aryl, alkaryl, or aralkyl, any of which can be optionally substituted, or when P is R^7 -C(O)- or R^7 -S(O)₂-, R^7 can also be an optionally substituted 5- to 10-membered saturated, partially saturated, or aromatic heterocycle.

9. (Original) The compound of claim 8, wherein P is R^7 -C(O)- or R^7 -S(O)₂-, and R^7 is an aromatic heterocycle.

- 10. (Original) The compound of claim 9, wherein P is (2-pyrazine)carbonyl or (2-pyrazine)sulfonyl.
 - 11. (Original) The compound of claim 8, wherein

R is hydrogen or C₁-C₈ alkyl; and

 R^3 is C_1 - C_6 alkyl.

- 12. (Previously Presented) The compound of claim 11, wherein P is (2-pyrazine)sulfonyl.
 - 13. (Canceled)
 - 14. (Original) The compound of claim 1, wherein
- R^1 , R^2 , and R^3 are each independently hydrogen, C_1 - C_8 alkyl, C_3 - C_{10} cycloalkyl, C_6 - C_{10} aryl, or $-CH_2$ - R^5 ;

 R^5 in each instance is $C_6\text{-}C_{10}$ aryl, $(C_6\text{-}C_{10})\text{ar}(C_1\text{-}C_6)\text{alkyl},$ $(C_1\text{-}C_6)\text{alk}(C_6\text{-}C_{10})\text{aryl},$ $C_3\text{-}C_{10}$ cycloalkyl, $C_1\text{-}C_8$ alkoxy, or $C_1\text{-}C_8$ alkylthio;

wherein the ring portion of any said aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, or heteroaryl groups of R¹, R², R³, or R⁵ can be optionally substituted.

- 15. (Currently Amended) The compound of claim 1, wherein said compound is a sugar ester of a:
 - N-(2-pyrazine)carbonyl-L-phenylalanine-L-leucine boronic acid;
 - N-(2-quinoline)sulfonyl-L-homophenylalanine-L-leucine boronic acid;
 - N-(3-pyridine)carbonyl-L-phenylalanine-L-leucine boronic acid;
 - N-(4-morpholine)carbonyl-L-phenylalanine-L-leucine boronic acid;
 - N-(4-morpholine)carbonyl-β-(1-naphthyl)-L-alanine-L-leucine boronic acid;
 - N-(8-quinoline)sulfonyl-β-(1-naphthyl)-L-alanine-L-leucine boronic acid;
 - N-(4-morpholine)carbonyl-(O-benzyl)-L-tyrosine-L-leucine boronic acid;
 - N-(4-morpholine)carbonyl-L-tyrosine-L-leucine boronic acid; or
 - N-(4-morpholine)carbonyl-[O-(2-pyridylmethyl)]-L-tyrosine-L-leucine boronic acid.
- 16. (Currently Amended) The compound of claim 1, wherein said compound is a sugar ester of a N-(2-pyrazine)carbonyl-L-phenylalanine-L-leucine boronic acid.

17. (Previously Presented) A lyophilized compound of the formula (1):

$$\begin{array}{c|c}
R & O & R^2 & Z^1 \\
\hline
R & N & B & Z^2
\end{array}$$
(1)

wherein

P is hydrogen or an amino-group protecting moiety;

R is hydrogen or alkyl;

A is 0, 1, or 2;

R¹, R², and R³ are each independently hydrogen, alkyl, cycloalkyl, aryl, or -CH₂-R⁵;

R⁵, in each instance, is aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, heteroaryl, or – W-R⁶, where W is a chalcogen and R⁶ is alkyl;

wherein the ring portion of any said aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, or heteroaryl in R¹, R², R³, or R⁵ can be optionally substituted; and

 Z^1 and Z^2 together form a moiety derived from a sugar, wherein the atom attached to boron in each case is an oxygen atom.

- 18. (Original) The compound of claim 17, wherein the sugar is a monosaccharide or disaccharide.
 - 19. (Original) The compound of claim 17, wherein the sugar is a reduced sugar.
 - 20. (Original) The compound of claim 17, wherein A is 0.
- 21. (Previously Presented) The compound of claim 19, wherein the reduced sugar is sorbitol.
 - 22.-23. (Canceled)
- 24. (Original) The compound of claim 17, wherein P is R^7 -C(O)-, R^7 -S(O)₂-, R^7 -NH-C(O)-, or R^7 -O-C(O)-;

where R^7 is alkyl, aryl, alkaryl, or aralkyl, any of which can be optionally substituted, or when P is R^7 -C(O)- or R^7 -S(O)₂-, R^7 can also be an optionally substituted 5- to 10-membered saturated, partially saturated, or aromatic heterocycle.

25. (Original) The compound of claim 24, wherein P is R^7 -C(O)- or R^7 -S(O)₂-, and R^7 is an aromatic heterocycle.

- 26. (Original) The compound of claim 25, wherein P is (2-pyrazine)carbonyl or (2-pyrazine)sulfonyl.
 - 27. (Original) The compound of claim 24, wherein

R is hydrogen or C₁-C₈ alkyl; and

 R^3 is C_1 - C_6 alkyl.

- 28. (Previously Presented) The compound of claim 27, wherein P is (2-pyrazine)sulfonyl.
 - 29. (Canceled)
 - 30. (Original) The compound of claim 17, wherein
- R^1 , R^2 , and R^3 are each independently hydrogen, C_1 - C_8 alkyl, C_3 - C_{10} cycloalkyl, C_6 - C_{10} aryl, or $-CH_2$ - R^5 ;
- R^5 in each instance is C_6 - C_{10} aryl, $(C_6$ - $C_{10})$ ar(C_1 - C_6)alkyl, $(C_1$ - C_6)alk(C_6 - C_{10})aryl, C_3 - C_{10} cycloalkyl, C_1 - C_8 alkoxy, or C_1 - C_8 alkylthio; wherein the ring portion of any said aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, or heteroaryl groups of R^1 , R^2 , R^3 , or R^5 can be optionally substituted.
- 31. (Currently Amended) The compound of claim 25, wherein said compound is a sugar ester of a:

N-(2-pyrazine)carbonyl-L-phenylalanine-L-leucine boronic acid;

N-(2-quinoline)sulfonyl-L-homophenylalanine-L-leucine boronic acid;

N-(3-pyridine)carbonyl-L-phenylalanine-L-leucine boronic acid;

N-(4-morpholine)carbonyl-L-phenylalanine-L-leucine boronic acid;

N-(4-morpholine)carbonyl-β-(1-naphthyl)-L-alanine-L-leucine boronic acid;

N-(8-quinoline)sulfonyl-β-(1-naphthyl)-L-alanine-L-leucine boronic acid;

N-(4-morpholine)carbonyl-(O-benzyl)-L-tyrosine-L-leucine boronic acid;

N-(4-morpholine)carbonyl-L-tyrosine-L-leucine boronic acid; or

N-(4-morpholine)carbonyl-[O-(2-pyridylmethyl)]-L-tyrosine-L-leucine boronic acid.

32. (Currently Amended) The lyophilized compound of claim 25, wherein said compound is a sugar ester of $\frac{1}{2}$ N-(2-pyrazine)carbonyl-L-phenylalanine-L-leucine boronic acid.

- 33. (Original) The compound of claim 17, wherein the compound is stable at 0 °C for at least one month.
- 34. (Original) The compound of claim 17, wherein the compound is stable at 40 °C for at least one month.
- 35. (Previously Presented) A method of preparing a lyophilized compound of the formula (1):

wherein

P is hydrogen or an amino-group protecting moiety;

R is hydrogen or alkyl;

A is 0, 1, or 2;

R¹, R², and R³ are each independently hydrogen, alkyl, cycloalkyl, aryl, or -CH₂-R⁵;

R⁵ in each instance is aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, heteroaryl, or – W-R⁶, where W is a chalcogen and R⁶ is alkyl;

wherein the ring portion of any said aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, or heteroaryl in R¹, R², R³, or R⁵ can be optionally substituted; and

 Z^1 and Z^2 together form a moiety derived from a sugar; the method comprising:

- (a) preparing a mixture comprising
 - (i) water,
 - (ii) a compound of formula (3).

wherein P, R, A, R¹, R², and R³ are as described above; and

Z and Z are OH; and

- (iii) a sugar; and
- (b) lyophilizing the mixture.

- 36. (Original) The method of claim 35, wherein the sugar is a monosaccharide or disaccharide.
 - 37. (Original) The method of claim 35, wherein the sugar is a reduced sugar.
- 38. (Previously Presented) The method of claim 37, wherein the reduced sugar is sorbitol.
 - 39.-40. (Canceled)
- 41. (Original) The method of claim 35, wherein P is R^7 -C(O)-, R^7 -S(O)₂-, R^7 -NH-C(O)-, or R^7 -O-C(O)-;

where R^7 is alkyl, aryl, alkaryl, or aralkyl, any of which can be optionally substituted, or when P is R^7 -C(O)- or R^7 -S(O)₂-, R^7 can also be an optionally substituted 5- to 10-membered saturated, partially saturated, or aromatic heterocycle.

- 42. (Original) The method of claim 41, wherein P is R^7 -C(O)- or R^7 -S(O)₂-, and R^7 is an aromatic heterocycle.
- 43. (Original) The method of claim 42, wherein P is (2-pyrazine)carbonyl or (2-pyrazine)sulfonyl.
 - 44. (Original) The method of claim 35, wherein

A is zero;

R is hydrogen or C₁-C₆ alkyl; and

 R^3 is C_1 - C_6 alkyl.

- 45. (Previously Presented) The method of claim 44, wherein P is (2-pyrazine)sulfonyl.
 - 46. (Original) The method of claim 35, wherein
- R^1 , R^2 , and R^3 are each independently hydrogen, C_1 - C_8 alkyl, C_3 - C_{10} cycloalkyl, C_6 - C_{10} aryl, or $-CH_2$ - R^5 ;

 R^5 in each instance is C_6 - C_{10} aryl, $(C_6$ - $C_{10})$ ar $(C_1$ - $C_6)$ alkyl, $(C_1$ - $C_6)$ alk $(C_6$ - $C_{10})$ aryl, C_3 - C_{10} cycloalkyl, C_1 - C_8 alkoxy, or C_1 - C_8 alkylthio;

wherein the ring portion of any said aryl, aralkyl, alkaryl, cycloalkyl, heterocyclyl, or heteroaryl groups of R^1 , R^2 , R^3 , or R^5 can be optionally substituted.

47. (Original) The method of claim 35, wherein the compound of formula (3) is:

- N-(2-pyrazine)carbonyl-L-phenylalanine-L-leucine boronic acid;
- N-(2-quinoline)sulfonyl-L-homophenylalanine-L-leucine boronic acid;
- N-(3-pyridine)carbonyl-L-phenylalanine-L-leucine boronic acid;
- N-(4-morpholine)carbonyl-L-phenylalanine-L-leucine boronic acid;
- N-(4-morpholine)carbonyl-β-(1-naphthyl)-L-alanine-L-leucine boronic acid;
- N-(8-quinoline)sulfonyl-β-(1-naphthyl)-L-alanine-L-leucine boronic acid;
- N-(4-morpholine)carbonyl-(O-benzyl)-L-tyrosine-L-leucine boronic acid;
- N-(4-morpholine)carbonyl-L-tyrosine-L-leucine boronic acid; or
- N-(4-morpholine)carbonyl-[O-(2-pyridylmethyl)]-L-tyrosine-L-leucine boronic acid.
- 48. (Canceled)
- 49. (Original) The method of claim 47, wherein the compound of formula (3) is N-(2-pyrazine)carbonyl-L-phenylalanine-L-leucine boronic acid.
- 50. (Original) The method of claim 35, wherein the mixture further comprises a water-miscible solvent.
- 51. (Original) The method of claim 50, wherein the water-miscible solvent is an alcohol.
 - 52. (Original) The method of claim 51, wherein the alcohol is *tert*-butanol.
- 53. (Previously Presented) The method of claim 35, wherein the sugar and the compound of formula (3) are present in at least a 1:1 ratio.
- 54. (Previously Presented) The method of claim 35, wherein the sugar and the compound of formula (3) are present in at least a 5:1 ratio.
 - 55. (Original) A lyophilized cake comprising the compound of claim 17.
- 56. (Previously Presented) A composition comprising the compound of claim 1 and a pharmaceutically-acceptable carrier.
- 57. (Previously Presented) A composition comprising the compound of claim 8 and a pharmaceutically-acceptable carrier.

- 58. (Previously Presented) A composition comprising the compound of claim 12 and a pharmaceutically-acceptable carrier.
- 59. (Previously Presented) A composition comprising the compound of claim 16 and a pharmaceutically-acceptable carrier.
- 60. (Previously Presented) A composition comprising the compound of claim 17 and a pharmaceutically-acceptable carrier.
- 61. (Previously Presented) A composition comprising the compound of claim 24 and a pharmaceutically-acceptable carrier.
- 62. (Previously Presented) A composition comprising the compound of claim 28 and a pharmaceutically-acceptable carrier.
- 63. (Previously Presented) A composition comprising the compound of claim 32 and a pharmaceutically-acceptable carrier.
 - 64. (Previously Presented) A lyophilized cake comprising the compound of claim 24.
 - 65. (Previously Presented) A lyophilized cake comprising the compound of claim 28.
 - 66. (Previously Presented) A lyophilized cake comprising the compound of claim 32.
 - 67. (Previously Presented) The method of claim 45, wherein A is 0.
- 68. (Previously Presented) The method of claim 35 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.
- 69. (Previously Presented) The method of claim 41 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.
- 70. (Previously Presented) The method of claim 45 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.
- 71. (Previously Presented) The method of claim 49 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.

- 72. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 35 and (ii) a pharmaceutically-acceptable carrier.
- 73. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 41 and (ii) a pharmaceutically-acceptable carrier.
- 74. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 45 and (ii) a pharmaceutically-acceptable carrier.
- 75. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 49 and (ii) a pharmaceutically-acceptable carrier.
- 76. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 35.
- 77. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 41.
- 78. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 45.
- 79. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 49.
- 80. (Previously Presented) The compound of claim 11, wherein P is (2-pyrazine)carbonyl.
- 81. (Previously Presented) A composition comprising the compound of claim 80 and a pharmaceutically-acceptable carrier.
- 82. (Previously Presented) The compound of claim 27, wherein P is (2-pyrazine)carbonyl.

- 83. (Previously Presented) A composition comprising the compound of claim 82 and a pharmaceutically-acceptable carrier.
 - 84. (Previously Presented) A lyophilized cake comprising the compound of claim 82.
- 85. (Previously Presented) The method of claim 44, wherein P is (2-pyrazine)carbonyl.
- 86. (Previously Presented) A composition comprising the compound of clam 85 and a pharmaceutically-acceptable carrier.
- 87. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 85.
- 88. (Previously Presented) The compound of claim 1, wherein P and R together form a cyclic moiety.
- 89. (Previously Presented) The compound of claim 88, wherein Z^1 and Z^2 together form a moiety derived from a monosaccharide or disaccharide.
 - 90. (Previously Presented) The compound of claim 89, wherein

R is hydrogen or C_1 - C_8 alkyl;

 R^3 is C_1 - C_6 alkyl; and

P is (2-pyrazine)carbonyl.

- 91. (Previously Presented) A composition comprising the compound of claim 88 and a pharmaceutically-acceptable carrier.
- 92. (Previously Presented) A composition comprising the compound of claim 89 and a pharmaceutically-acceptable carrier.
- 93. (Previously Presented) A composition comprising the compound of claim 90 and a pharmaceutically-acceptable carrier.

- 94. (Previously Presented) The compound of claim 17, wherein P and R together form a cyclic moiety.
- 95. (Previously Presented) The compound of claim 94, wherein Z^1 and Z^2 together form a moiety derived from a monosaccharide or disaccharide.
 - 96. (Previously Presented) The compound of claim 95, wherein

R is hydrogen or C_1 - C_8 alkyl;

 R^3 is C_1 - C_6 alkyl; and

P is (2-pyrazine)carbonyl.

- 97. (Previously Presented) A composition comprising the compound of claim 94 and a pharmaceutically-acceptable carrier.
- 98. (Previously Presented) A composition comprising the compound of claim 95 and a pharmaceutically-acceptable carrier.
- 99. (Previously Presented) A composition comprising the compound of claim 96 and a pharmaceutically-acceptable carrier.
- 100. (Previously Presented) A lyophilized cake comprising the compound of claim 94.
- 101. (Previously Presented) A lyophilized cake comprising the compound of claim 95.
- 102. (Previously Presented) A lyophilized cake comprising the compound of claim 96.
- 103. (Previously Presented) The method of claim 35, wherein P and R together form a cyclic moiety.
- 104. (Previously Presented) The method of claim 103, wherein Z^1 and Z^2 together form a moiety derived from a monosaccharide or disaccharide.
 - 105. (Previously Presented) The method of claim 104, wherein

A is zero; R is hydrogen or C_1 - C_8 alkyl; R^3 is C_1 - C_6 alkyl; and

- P is (2-pyrazine)carbonyl.
- 106. (Previously Presented) The method of claim 103 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.
- 107. (Previously Presented) The method of claim 104 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.
- 108. (Previously Presented) The method of claim 105 further comprising (c) reconstituting the lyophilized mixture with a pharmaceutically-acceptable carrier.
- 109. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 103 and (ii) a pharmaceutically-acceptable carrier.
- 110. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 104 and (ii) a pharmaceutically-acceptable carrier.
- 111. (Previously Presented) A composition comprising (i) the compound of formula (1) prepared in accordance with the method of claim 105 and (ii) a pharmaceutically-acceptable carrier.
- 112. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 103.
- 113. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 104.
- 114. (Previously Presented) A lyophilized cake comprising the compound of formula (1) prepared in accordance with the method of claim 105.